#20
1-14-3
Roberts
1043

Attorney Docket No.: SON-1718
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Yasukiyasu SUGANO, *et al.*

Application No.: 09/478,812

Group Art Unit: 2815

Filed: January 7, 2000

Examiner: E. Lee

For: PROCESS FOR PRODUCING THIN FILM SEMICONDUCTORDEVICE AND LASER IRRADIATION APPARATUS

APPELLANT'S BRIEF

Attention: Board of Patent Appeals and Interferences
Box AF
Commissioner for Patents
Washington, DC 20231

Dear Sir:

This brief is in furtherance of the Notice of Appeal, filed in this case on June 21, 2001. This is an Appeal Brief under Rule 192 appealing the final decision of the Primary Examiner dated October 16, 2002 ("Paper No. 19").

A Notice of Appeal and fee was filed on November 21, 2001, and an Appeal Brief and fee was filed January 22, 2002. Thus, it is believed that **no fees are due**. M.P.E.P. §1208.03. However, if a fee is required, the Commissioner is hereby authorized to charge the fee to Deposit Account # 18-0013.

This brief is transmitted in triplicate.

This brief contains items under the following headings as required by 37 C.F.R. § 1.192 and M.P.E.P. § 1206:

I. REAL PARTY IN INTEREST

The real party in interest for this appeal is:

Sony Corporation of Tokyo, Japan ("Sony") is the real party in interest of the present application. An assignment of all rights in the present application to Sony was executed by the inventors and recorded by the U.S. Patent and Trademark Office at reel 010792, frame 0182.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal of which the Appellants are aware.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 14 claims pending in application.

B. Current Status of Claims

The Application as filed contained claims 1 to 74. After canceling claims in view of a restriction requirement and other amendments, only claims 11 to 12, 17 to 18, 27 to 28, 39 to 40, 53 to 54, 63, 65, and 73 to 74 are pending on appeal. No amendments have been made to the claims since the mailing of Paper No. 19.

1. Claims canceled: 1-10, 13-16, 19-26, 29-38, 41-52, 55-62, 64 and 66-72

2. Claims withdrawn from consideration but not canceled: None

3. Claims pending: 11, 12, 17, 18, 27, 28, 39, 40, 53, 54, 63, 65, 73, 74

4. Claims allowed: None

5. Claims rejected: 11, 12, 17, 18, 27, 28, 39, 40, 53, 54, 63, 65, 73, 74

C. Claims On Appeal

The claims on appeal are claims 11, 12, 17, 18, 27, 28, 39, 40, 53, 54, 63, 65, 73, 74

IV. STATUS OF AMENDMENTS

Claims 11 to 12, 17 to 18, 27 to 28, 39 to 40, 53 to 54, 63 to 65, and 73 to 74 were initially examined. Claim 64 has been canceled, and the claims have been amended since initial examination. Following the issuance of Paper No. 10, Appellants filed a Response to Final Office Action on September 19, 2001, and the Notice of Appeal and Appeal Brief were thereafter filed. Prosecution was subsequently reopened in Paper No. 16. Appellants amended claims 11, 12, 17, 18, 27, 28, 39, 40, 53, 54, 63, 65, 73 and 74 in the Amendment filed August 8, 2002 (Paper No. 18). Following the issuance of Paper No. 19, Appellants filed this Renewed Appeal Brief. No Amendment was filed following the Final Rejection that is the subject of this Appeal.

Thus, the claims as presented in the Appendix represent all amendments that were made up until issuance of Paper No. 19.

V. SUMMARY OF INVENTION

A first aspect of the present invention includes a thin film semiconductor device. The device includes a semiconductor thin film (e.g. layer 5, Fig. 7D), with a gate insulating film (combined film layers 2 and 3) accumulated on one surface thereof (lower surface of layer 5). A gate electrode (1) is accumulated on the semiconductor thin film (5) via the gate insulating thin film (2 and 3). The semiconductor thin film is formed by forming a 30 to 80 nm layer of amorphous silicon or polycrystalline silicon (layer 4 in Fig. 7B, page 39, lines 13 to 15). An energy beam is applied to a prescribed region, and a cross sectional shape of the energy beam is adjusted with respect to the prescribed region to irradiate the prescribed region in a single shot (page 10, lines 14 to 19; page 39, line 23 to page 40, line 6).

As shown in Fig. 11, plural units may be formed on the substrate (0). In this case, the irradiation step is conducted so that the substrate (0) is irradiated intermittently in order to convert the amorphous or polycrystalline material (4) to a polycrystalline material (page 45, lines 6 to 19). Further, a cross sectional shape of the energy beam is adjusted with respect to each unit to irradiate one or two or more units at a time by a single shot irradiation (page 45, last line to page 46, line 3).

At the time of formation, the amorphous silicon or polycrystalline silicon (4) has a first particle diameter; and after being irradiated with the energy beam, the semiconductor thin film (4) is converted to polycrystalline silicon (5) having a larger particle diameter than the first particle diameter (page 48, lines 10 to 16).

Regarding the laser irradiation step, such step may be performed by irradiating the prescribed region of the substrate one or more times with a pulse of laser light having a constant cross sectional area and an emission time width from upstand to downfall of 50 ns or more (Fig. 23A, page 69 lines 6 to 11). Further, a desired change to the energy intensity of the laser light from upstand to downfall of the pulse is applied to said polycrystalline silicon (page 67, line 16 to page 68, last line).

According to the first embodiment of the invention, a thin film transistor (112, Fig. 8) is integrated and formed in a prescribed region by using the semiconductor thin film (5) thus converted to polycrystalline silicon as an active layer (page 43, lines 13 to 17). Due to the energy beam irradiation, characteristics of the thin film transistor are made uniform.

A second aspect of the invention involves a display device (Fig. 8, page 42, lines 12 to 15). The device includes a pair of substrates (101, 102) adhered to each other with a prescribed gap, and an electrooptical substance (103) maintained in the gap (page 42, lines 15 to 18). One of the substrates (102) includes a counter electrode, the other substrate (101) includes a pixel electrode (111) and a thin film transistor (112) driving the pixel electrode (111). The thin film transistor (112) includes a semiconductor thin film and a gate electrode accumulated on one surface of the semiconductor thin film through a gate insulating film as described above regarding the first aspect of the invention. The formation steps regarding the semiconductor thin film and the active region are also the same as described above.

A third aspect of the invention involves a thin film transistor having a laminated structure (Fig. 7, page 38, lines 17 to 19). The transistor includes a semiconductor thin film, a gate insulating film accumulated on one surface thereof, and a gate electrode accumulated on said semiconductor thin film through said gate insulating thin film, according to the same construction as defined above regarding the first aspect of the invention. Further, the formation steps described above are the same, although in this embodiment, the semiconductor thin film is accumulated by alternately repeating the film forming step and the irradiation step, without exposing the substrate to the air (Fig. 14, page 52, lines 9 to 12).

A fourth aspect of the invention involves a display device as described above regarding the second aspect of the invention, using the method described above regarding the third aspect of the invention. According to the principle of accumulation of the semiconductor thin film, a semiconductor thin film (2A in Fig. 19A to F) is formed by forming a layer of about 20 nm amorphous silicon or polycrystalline silicon having a first particle diameter on a substrate (page 59, lines 5 to 8). The film (2A) is irradiating according to a prescribed region of the substrate (1A) with laser light having a prescribed cross sectional shape to convert to polycrystalline silicon having a larger particle diameter than the first diameter as described above. Then, additional semiconductor thin films are accumulated by alternately repeating the film forming step, where each additional formed film is about 1 nm (page 60, lines 19 to page 61, line 4).

As stated above, with regard to any of the aspects of the invention, it is preferred that during the irradiation steps, the substrate is maintained in a non-oxidative atmosphere (page 27, lines 12 to 13). Further, in one embodiment it is preferred that the irradiation step is performed under conditions where the substrate is uniformly heated (page 26, lines 16 to 20). In another

embodiment, the substrate is cooled to a temperature lower than room temperature during the irradiation step (page 26, line 24 to page 27, line 4).

VI. ISSUES

The issues presented for consideration in this appeal are as follows:

(1) Whether the Examiner erred in rejecting claims 11, 39, 53, 63 and 73 under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent No. 6,017,779 to Miyasaka et al.?

(2) Whether the Examiner erred in rejecting claims 12, 18, 28, 40, 54, 65 and 74 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,017,779 to Miyasaka et al. in view of U.S. Patent No. 5,798,744 to Tanaka et al.?

(3) Whether the Examiner erred in rejecting claim 17 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,017,779 to Miyasaka et al.?

(4) Whether the Examiner erred in rejecting claim 27 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,017,779 to Miyasaka et al.?

Each of these issues will be discussed in turn.

VII. GROUPING OF CLAIMS

For purposes of this appeal brief only, and without conceding the teachings of any prior art reference, the claims have been grouped as indicated below:

All of the claims stand or fall together. The reasoning for the grouping of the claims is evident in light of the following arguments.

VIII. ARGUMENTS

For at least the following reasons, Appellant submits that these rejections are both technically and legally unsound and should therefore be reversed.

The claims that are pending for the Examiner's consideration in this application are apparatus claims that are directed to the thin film semiconductor devices that result from an inventive method. It is recognized that process limitations in product claims are not given any patentable weight **unless** they ascribe a structural feature to the resulting semiconductor chip. Therefore, the following discussion establishes how the process steps in the present claims do in fact ascribe a structural feature to the semiconductors made thereby, which distinguish the semiconductors from those of the prior art.

Each of independent claims 11 to 12, and 17 to 18 recites that a thin film semiconductor is formed by irradiating an amorphous semiconductor substrate with an energy beam that has an adjusted cross sectional shape so that a region of the substrate is irradiated with a single shot, so that a resultant polycrystalline silicon substrate is uniform in its crystallinity. Throughout the present specification (i.e., page 51, lines 7 to 12) it is repeatedly taught that by irradiating the entirety of the unit size of the thin film semiconductor device that the crystallization of the silicon film is made continuous, avoiding the formation of borders in the crystallized silicon. The specification also teaches that such borders are the product of conventional crystallization processes that involve the piecemeal irradiation of several adjacent regions of the unit size of the semiconductor device. The borders in the conventional process are the result of slight overlapping of regions that are separately irradiated. Consequently, the single shot irradiation process of the present invention does ascribe a structural limitation to the resultant thin film semiconductor that sets the structure apart from thin film semiconductors that are formed by irradiation of several adjacent regions in a unit area.

Claims 11 to 12, and 17 to 18 specifically recite:

> "a gate electrode accumulated on <u>a region of</u> said semiconductor thin film through said gate insulating thin film, ...
>
> a cross sectional shape of said energy beam is adjusted with respect to said region to irradiate said region <u>in its entirety</u> at a time by a single shot irradiation, so that characteristics of said thin film transistor <u>are</u> made uniform."

Miyasaka et al. '779 discloses the very type of conventional process discussed in the background section of the present application, and briefly described above. As disclosed at column 36, lines 28 to 48, Miyasaka et al. '779 teaches that 8 mm x 8 mm regions of a unit area of amorphous silicon are individually irradiated, with overlapping areas of 2mm x 2 mm due to

the movement of the movement of the substrate 4 mm in both the horizontal and vertical directions between each irradiation.

Accordingly, Miyasaka's process would result in the very border regions that the present invention overcomes by use of the single shot radiation. The remaining claims contain similar elements.

It is briefly pointed out that Tanaka et al. '744 fail to make up for the limitations discussed above, to which the teachings of the Miyasaka et al. '779 are deficient. Tanaka et al. '744 is only relied upon for display device features, and makes no mention of a thickness of an amorphous semiconductor layer that is crystallized, or use of single shot radiation.

"A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. Likewise, "[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)." M.P.E.P. § 2143.03. Accord. M.P.E.P. § 706.02(j). Because the above-discussed features of the claims are neither taught nor suggested by the prior art of record, it is respectfully submitted that the rejections of the claims cannot be sustained.

IX. CONCLUSION

In view of the foregoing reasons, Appellant submits that the final rejection of claims 11 to 12, 17 to 18, 27 to 28, 39 to 40, 53 to 54, 63, 65, and 73 to 74 is improper and should not be sustained. Therefore, a reversal of the Final Rejection of October 16, 2002, as to claims 11 to 12, 17 to 18, 27 to 28, 39 to 40, 53 to 54, 63, 65, and 73 to 74, is respectfully requested.

Dated: December 27, 2002

Respectfully submitted,

By ______________________
Ronald P. Kananen
Registration No.: 24,104

RADER, FISHMAN & GRAUER PLLC
1233 20th Street, N.W. Suite 501
Washington, D.C. 20036
Tel: (202) 955-3750
Fax: (202) 955-3751
Customer No. 23353

APPENDIX A

Claims Involved in the Appeal of Application Serial No. 09/478,812

11. A thin film semiconductor device comprising a semiconductor thin film, a gate insulating film accumulated on one surface thereof, and a gate electrode accumulated entirely within a prescribed region of said semiconductor thin film through said gate insulating thin film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of amorphous silicon or polycrystalline silicon having a first particle diameter on a substrate, and irradiating said substrate with an energy beam to convert said semiconductor thin film to polycrystalline silicon having a larger particle diameter than said first particle diameter,

a thin film transistor is integrated and formed in said prescribed region by using said semiconductor thin film thus converted to polycrystalline silicon as an active layer, and

a cross sectional shape of said energy beam is adjusted with respect to said region to irradiate said region in its entirety at a time by a single shot irradiation, so that characteristics of said thin film transistor are made uniform.

12. A display device comprising a pair of substrates adhered to each other with a prescribed gap, and an electrooptical substance maintained in said gap, one of said substrates comprises a counter electrode, the other substrate comprises a pixel electrode and a thin film transistor driving said pixel electrode, and said thin film transistor comprises a semiconductor thin film and a gate electrode accumulated entirely within a prescribed region of one surface of said semiconductor thin film through a gate insulating film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of amorphous silicon or polycrystalline silicon having a first particle diameter on said other substrate, and irradiating said other substrate with an energy beam to convert said semiconductor thin film to polycrystalline silicon having a particle diameter that is larger than said first particle diameter,

a thin film transistor is integrated and formed in said prescribed region by using said semiconductor thin film thus converted to polycrystalline silicon as an active layer, and

a cross sectional shape of said energy beam is adjusted with respect to said region to irradiate said region in its entirety at a time by a single shot irradiation, so that characteristics of said thin film transistor are made uniform.

17. A thin film semiconductor device comprising a semiconductor thin film, a gate insulating film accumulated on one surface thereof, and a gate electrode accumulated entirely within a unit of said semiconductor thin film through said gate insulating thin film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of amorphous silicon or polycrystalline silicon having a first particle diameter on a substrate, on which plural units are formed, and intermittently irradiating said substrate, so as to convert to polycrystalline silicon having a particle diameter that is larger than said first diameter,

a cross sectional shape of said energy beam is adjusted with respect to said unit to irradiate an entirety of one or two or more units at a time by a single shot irradiation, and

a thin film transistor is integrated and formed in said units thus subjected to irradiation at a time.

18. A display device comprising a pair of substrates adhered to each other with a prescribed gap, and an electrooptical substance maintained in said gap, one of said substrate comprises a counter electrode, the other substrate comprises a pixel electrode and a thin film transistor driving said pixel electrode, and said thin film transistor comprises a semiconductor thin film and a gate electrode accumulated entirely within a unit of one surface of said semiconductor thin film through a gate insulating film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of amorphous silicon or polycrystalline silicon having a first particle diameter on a substrate, on which plural units are formed, and intermittently irradiating said substrate, so as to convert said semiconductor thin film to polycrystalline silicon having a larger particle diameter than said first diameter,

a cross sectional shape of said energy beam is adjusted with respect to said unit to irradiate an entirety of one or two or more units at a time by a single shot irradiation, and

a thin film transistor is integrated and formed in said units thus subjected to irradiation at a time.

27. A thin film transistor having a laminated structure comprising a semiconductor thin film, a gate insulating film accumulated on one surface thereof, and a gate electrode accumulated entirely within a prescribed region of said semiconductor thin film through said gate insulating thin film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of amorphous silicon or polycrystalline silicon having a first particle diameter on a substrate, and irradiating said prescribed region of said substrate in its entirety with laser light having a prescribed cross sectional shape to convert said semiconductor thin film to polycrystalline silicon having a larger particle diameter than said first diameter, and

said semiconductor thin film is accumulated by alternately repeating said film forming step and said irradiation step without exposing said substrate to the air.

28. A display device comprising a pair of substrates adhered to each other with a prescribed gap, and an electrooptical substance maintained in said gap, one of said substrate comprises a counter electrode, the other substrate comprises a pixel electrode and a thin film transistor driving said pixel electrode, and said thin film transistor comprises a semiconductor thin film and a gate electrode accumulated entirely within a prescribed region of one surface of said semiconductor thin film through a gate insulating film,

wherein said semiconductor thin film is formed by forming a layer of about 20 nm amorphous silicon or polycrystalline silicon having a first particle diameter on a substrate, and irradiating said prescribed region of said substrate in its entirety with laser light having a prescribed cross sectional shape to convert to polycrystalline silicon having a larger particle diameter than said first diameter, and

said semiconductor thin film is accumulated by alternately repeating said film forming step, where each additional formed film is about 1 nm, and said irradiation step without exposing said substrate to the air.

39. (amended) A thin film transistor having a laminated structure comprising a semiconductor thin film, a gate insulating film accumulated on one surface thereof, and a gate

electrode accumulated entirely within a prescribed region of said semiconductor thin film through said gate insulating film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of non-single crystal silicon on a substrate, and irradiating said prescribed region of said substrate in its entirety once or more with a pulse of laser light having a constant cross sectional area and an emission time width from upstand to downfall of 50 ns or more, so as to convert said non-single crystal silicon contained in an irradiated area corresponding to said cross sectional area to a polycrystalline silicon at a time, and

a desired change to said energy intensity of said laser light from upstand to downfall of said pulse is applied to said polycrystalline silicon.

40. A display device comprising a pair of substrates adhered to each other with a prescribed gap, and an electrooptical substance maintained in said gap, one of said substrate comprises a counter electrode, the other substrate comprises a pixel electrode and a thin film transistor driving said pixel electrode, and said thin film transistor comprises a semiconductor thin film and a gate electrode accumulated entirely within a prescribed region of one surface of said semiconductor thin film through a gate insulating film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of non-single crystal silicon on said other substrate, and irradiating said prescribed region of said substrate in its entirety once or more with a pulse of laser light having a constant cross sectional area and an emission time width from upstand to down fall of 50 ns or more, so as to convert said non-single crystal silicon contained in an irradiated area corresponding to said cross sectional area to a polycrystalline silicon at a time, and

a desired change to said energy intensity of said laser light from upstand to downfall of said pulse is applied to said polycrystalline silicon.

53. A thin film transistor having a laminated structure comprising a semiconductor thin film, a gate insulating film accumulated on one surface thereof, and a gate electrode accumulated entirely within a prescribed region of said semiconductor thin film through said gate insulating film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of non-single crystal silicon on a substrate, and irradiating said prescribed region of said substrate in its entirety once or more with a pulse of laser light having a constant cross sectional area and an emission time width of 50 ns or more with maintaining said substrate in a non-oxidative atmosphere, so as to convert said non-single crystal silicon contained in an irradiated area corresponding to said cross sectional area to a polycrystalline silicon at a time.

54. (amended) A display device comprising a pair of substrates adhered to each other with a prescribed gap, and an electrooptical substance maintained in said gap, one of said substrate comprises a counter electrode, the other substrate comprises a pixel electrode and a thin film transistor driving said pixel electrode, and said thin film transistor comprises a semiconductor thin film and a gate electrode accumulated entirely within a prescribed region of one surface of said semiconductor thin film through a gate insulating film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of non-single crystal silicon on said other substrate, and irradiating said prescribed region of said substrate in its entirety once or more with a pulse of laser light having a constant cross sectional area and an emission time width of 50 ns or more with maintaining convert said non-single crystal silicon contained in an irradiated area corresponding to said cross sectional area to a polycrystalline silicon at a time.

63. A thin film transistor having a laminated structure comprising a semiconductor thin film, a gate insulating film accumulated on one surface thereof, and a gate electrode accumulated entirely within a prescribed region of said semiconductor thin film through said gate insulating film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of non-single crystal silicon on a substrate, and irradiating said prescribed region of said substrate in its entirety once or more with a pulse of laser light having a constant cross sectional area and an emission time width of 50 ns or more under conditions in that said substrate is uniformly heated, so as to convert said non-single crystal silicon contained in an irradiated area corresponding to said cross sectional area to polycrystalline silicon at a time.

65. A display device comprising a pair of substrate adhered to each other with a prescribed gap, and an electrooptical substance maintained in said gap, one of said substrate comprises a counter electrode, the other substrate comprises a pixel electrode and a thin film transistor comprises a semiconductor thin film and a gate electrode accumulated entirely within a prescribed region of one surface of said semiconductor thin film through a gate insulating film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of non-single crystal silicon on said other substrate, and irradiating said prescribed region of said substrate in its entirety once or more with a pulse of laser light having a constant cross sectional area and an emission time width of 50 ns or more under conditions in that said other substrate is uniformly heated, so as to convert said non-single crystal silicon contained in an irradiated area corresponding to said cross sectional area to a polycrystalline silicon at a time.

73. (amended) A thin film transistor having a laminated structure comprising a semiconductor thin film, a gate insulating film accumulated on one surface thereof, and a gate electrode accumulated entirely within a prescribed region of said semiconductor thin film through said gate insulating film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of non-single crystal silicon on a substrate, and irradiating said prescribed region of said substrate in its entirety once or more with a pulse of laser light having a constant cross sectional area and an emission time width of 50 ns or more under conditions in that said substrate is cooled to a temperature lower than room temperature, so as to convert said non-single crystal silicon contained in an irradiated area corresponding to said cross sectional area to a polycrystalline silicon at a time.

74. A display device comprising a pair of substrates adhered to each other with a prescribed gap, and an electrooptical substance maintained in said gap, one of said substrates comprises a counter electrode, the other substrate comprises a pixel electrode and a thin film transistor driving said pixel electrode, and said thin film transistor comprises a semiconductor thin film and a gate electrode accumulated entirely within a prescribed region of one surface of said semiconductor thin film through a gate insulating film,

wherein said semiconductor thin film is formed by forming a 30 to 80 nm layer of non-single crystal silicon on said other substrate, and irradiating said prescribed region of said substrate in its entirety once or more with a pulse of laser light having a constant cross sectional area and an emission time width of 50 ns or more under conditions in that said other substrate is cooled to a temperature lower than room temperature, so as to convert said non-single crystal silicon contained in an irradiated area corresponding to said cross sectional area to a polycrystalline silicon at a time.

AF/2815

Attorney Docket No.: SON-1718
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Yasukiyasu SUGANO, *et al.*

Application No.: 09/478,812

Group Art Unit: 2815

Filed: January 7, 2000

Examiner: E. Lee

For: PROCESS FOR PRODUCING THIN FILM SEMICONDUCTORDEVICE AND LASER IRRADIATION APPARATUS

TRANSMITTAL OF APPEAL BRIEF

BOX AF
Commissioner of Patents
Washington, DC 20231

Sir:

Three copies of an Appellant's Brief on Appeal for the above-referenced application are being filed herewith. Thus, consideration of the Appeal Brief is respectfully requested.

A Notice of Appeal and fee was filed on November 21, 2001, and an Appeal Brief and fee was filed January 22, 2002. Thus, it is believed that **no fees are due**. M.P.E.P. §1208.03. However, if a fee is required, the Commissioner is hereby authorized to charge the fee to Deposit Account # 18-0013.

Respectfully submitted,

Ronald P. Kananen
Reg. No. 24,104

Date: December 27, 2002

RADER, FISHMAN & GRAUER PLLC
Lion Building
1233 20th Street, N.W.
Washington, D.C. 20036
Tel: (202) 955-3750
Fax: (202) 955-3751